

Mineral Industry Surveys

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MOLYBDENUM IN JANUARY 2006

Domestic production of molybdenum in concentrate in January 2006 was about 6% less than that of the previous month but was about 17% more than that of January 2005, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 7,700 metric tons (t) at the beginning of 2005 and about 7,600 t at the end of January.

According to Ryan's Notes (2006b), the January monthly average prices for U.S. ferromolybdenum (FeMo) ranged from \$24.139 to \$25.222 per pound of molybdenum content, compared with \$28.722 to \$30.056 in December. European FeMo monthly averages ranged from \$54.444 to \$56.500 per kilogram (kg) of molybdenum content in January as compared with \$60.556 to \$62.222 per kg in December. In January, worldwide molybdenum oxide (MoO₃) prices ranged from \$22.778 to \$23.833 per pound versus \$26.667 to \$27.556 per pound in December.

Production of molybdenum concentrates in China totaled about 59,400 t through November 2005 and was expected to be about 64,800 t for 2005. This was roughly the same level of production as in 2004. Mine closures in the Huludao area, owing to government restructuring, reduced production from Liaoning Province about 33% in 2005. In addition, mine closures, owing to environmental health and safety concerns, resulted in a 14% drop in molybdenum production in Hehan Province in 2005. These reductions were offset by increased production in Hunan Province, up about 200% to 2,700 t, and

Jiangxi Province, up about 180% to 2,200 t (Ryan's Notes, 2006a).

The new molybdenum recovery circuit at Falconbridge Ltd.'s (Toronto, Canada) Collahuasi copper mine in Chile began operation in November 2005, about 3 months ahead of schedule. The annual production capacity of the facility was reported to be 13,600 t (30 million pounds) of molybdenum in concentrate. Corporación Nacional del Cobre de Chile (Codelco) reported production of about 34,000 t (75 million pounds) of molybdenum in concentrate in 2005, up about 7% from that of 2004. In June 2005, Falconbridge also began roasting molybdenum concentrates at an existing furnace at its Altonorte copper mine in Chile. The annual capacity of the roaster was reported to be about 2,700 t (6 million pounds) of molybdenum in concentrate (TEX Report, 2006).

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, U.S. consumption by end use, and stocks of molybdenum material in December 2005 and January 2006; also included are trade data for November and December 2005.

References Cited

- Ryan's Notes, 2006a, Moly prices jump another notch: Ryan's Notes, v. 12, no. 4, January 23, p. 3.
Ryan's Notes, 2006b, [untitled]: Ryan's Notes, v. 12, no. 6, February 6, p. 10.
TEX Report, 2006, General review of molybdenum in 2005: TEX Report, v. 38, no. 8915, January 12, p. 4.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2005			2006
	January- December ^p	January	December	January
Production	58,200	4,150	5,150	4,860
Shipments: ²				
Domestic	38,600	2,890	3,520	2,800
Export	19,300	1,330	2,000	1,720

^pPreliminary.

¹Data are rounded to no more than three significant digits.

²As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM
PRODUCTS¹

(Metric tons, contained molybdenum)

	2005			2006
	January- December ^p	January	December	January
Gross production	79,400	6,960	6,330	7,180
Internal consumption ²	49,400	4,280	3,480	4,350
Gross shipments	47,000	4,040	3,700	4,470

^pPreliminary.

¹Data are rounded to no more than three significant digits.

²Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS¹

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro molyb- denum ²	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2005, December:						
Steel:						
Carbon	13,400 ^r	W	--	--	W	13,400 ^r
High-strength low-alloy	35,700 ^r	7,630 ^r	--	--	11,300	54,600 ^r
Stainless and heat-resisting	174,000	69,200	--	W	6,510	249,000
Full alloy	161,000 ^r	153,000	--	--	1,510	316,000 ^r
Tool	46,900	W	--	--	--	46,900
Total	431,000 ^r	230,000 ^r	--	W	19,400	680,000 ^r
Cast irons (gray, malleable, and ductile iron)	W	7,650	--	--	763	8,410
Superalloys	84,000	W	--	(3)	133,000	217,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	171	5,780	--	--	--	5,950
Mill products made from metal powder ⁴	--	--	--	--	77,000	77,000
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	515 ^r	515 ^r
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,900	10,900
Other	1,090	30,100 ^r	72,700 ^r	1,840	16,800	123,000
Grand total	593,000 ^r	274,000 ^r	72,700 ^r	1,840	258,000 ^r	1,200,000 ^r
Stocks, December 31, 2005	464,000 ^r	197,000	2,920 ^r	30,700	848,000 ^r	1,540,000
2006, January:						
Steel:						
Carbon	12,700	W	--	--	W	12,700
High-strength low-alloy	36,800	10,300	--	--	11,300	58,400
Stainless and heat-resisting	162,000	69,600	--	W	6,510	238,000
Full alloy	161,000	212,000	--	--	1,510	374,000
Tool	43,900	W	--	--	--	43,900
Total	417,000	292,000	--	W	19,400	728,000
Cast irons (gray, malleable, and ductile iron)	W	7,320	--	--	763	8,090
Superalloys	89,200	W	--	(3)	131,000	220,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	98	1,220	--	--	--	1,310
Mill products made from metal powder ⁴	--	--	--	--	94,100	94,100
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	900	900
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,900	10,900
Other	1,090	42,100	72,900	1,840	16,800	135,000
Grand total	584,000	342,000	72,900	1,840	274,000	1,280,000
Stocks, January 31, 2006	494,000	210,000	2,690	38,400	852,000	1,600,000

¹Revised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Includes calcium molybdate.

⁴Included in "Other" of the "Superalloys" category.

⁵Includes ingot, wire, rod, and sheet.

⁶Includes construction, mining, oil and gas, metalworking machinery.

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2004		2005		
	January- December	December	November	December	January- December ²
Australia	30,500	--	--	--	110,000
Austria	1,310,000	--	--	--	3,230
Belgium	6,470,000	79,500	1,150,000	785,000	9,430,000
Brazil	31,000	1,750	--	--	66,700
Canada	1,370,000	135,000	306,000	190,000	3,840,000
Chile	1,380,000	--	--	66,000	177,000
China	36,000	--	24,900	78,600	4,390,000
Costa Rica	26,700	--	--	--	3,810
India	430	--	--	1,570	41,100
Italy	--	--	--	--	35,100
Japan	5,730,000	70,700	126,000	177,000	2,050,000
Korea, Republic of	95,200	1,950	--	272	11,700
Mexico	3,910,000	393,000	394,000	482,000	3,130,000
Netherlands	14,100,000	965,000	425,000	729,000	15,000,000
Sweden	38,200	38,200	--	--	--
Taiwan	19,200	590	--	--	3,600
United Kingdom	8,910,000	721,000	670,000	664,000	7,310,000
Other	2,770,000	3,300	--	12,700	767,000
Total	46,200,000	2,410,000	3,090,000	3,190,000	46,400,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May have been revised.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2004		2005		
	January- December	December	November	December	January- December
Australia	1,090	--	--	--	--
Austria	--	--	--	--	11,400
Brazil	--	--	--	--	17,200
Canada	870,000	59,000	191,000	105,000	1,930,000
France	10,100	--	--	--	--
Indonesia	381	--	--	--	5,930
Mexico	33,700	--	6,900	--	88,700
Netherlands	--	--	--	--	33,300
Sweden	9,150	9,150	--	--	--
United Kingdom	491	--	--	--	--
Total	925,000	68,100	198,000	105,000	2,090,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	January-December 2004			December 2005			January-December 2005		
	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates roasted	7,580,000	4,710,000	\$133,000	798,000	497,000	\$14,500	8,570,000	5,380,000	\$306,000
Ore and concentrates other	9,330,000	4,070,000	135,000	1,160,000	575,000	31,300	13,800,000	6,480,000	440,000
Molybdenum chemicals:									
Oxides and hydroxides	822,000	NA	15,800	59,800	NA	2,700	1,240,000	NA	42,500
Molydates of ammonium	1,940,000	1,330,000	18,400	426,000	263,000	3,610	4,220,000	2,730,000	53,600
Molydates (all others)	254,000	116,000	1,430	--	--	--	101,000	24,800	1,250
Molybdenum orange	1,030,000	NA	4,760	63,600	NA	309	983,000	NA	4,780
Ferromolybdenum	8,310,000	5,310,000	158,000	654,000	414,000	24,400	6,340,000	4,040,000	278,000
Molybdenum powders	139,000	95,200	4,930	6,190	5,220	651	92,900	78,500	7,740
Molybdenum unwrought	151,000	151,000	3,520	5,790	5,780	332	99,000	98,800	5,740
Molybdenum waste and scrap	454,000	415,000	10,200	46,200	45,800	3,230	503,000	480,000	35,600
Molybdenum wire	20,500	NA	2,010	686	NA	147	21,300	NA	3,160
Molybdenum other	132,000	NA	13,700	11,200	NA	1,230	163,000	NA	20,700
Total	30,200,000	16,200,000	501,000	3,230,000	1,810,000	82,300	36,200,000	19,300,000	1,200,000

NA Not available. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Customs value.

Source: U.S. Census Bureau.